

**Quarterly Report**  
To the  
U. S. ENVIRONMENTAL PROTECTION AGENCY

**REYNOLDS ALUMINUM**  
PERIOD ENDING SEPTEMBER 30, 2006

**PROJECT SUMMARY**

Management Assistance Project  
Cooperative Agreement No. V-00071807-0  
Reynolds Aluminum  
DEQ Project Manager: Mavis Kent

**PROJECT REPORTING DATE**

July 1, 2006, through September 30, 2006

**ACCOMPLISHMENTS**

TASK 1 - Participation in Meetings and Briefings: Attend public meeting in Wood Village on August 25.

TASK 2 - Document Review: Review draft plan, draft record of decision, prepare state letter of concurrence.

TASK 3 - Administration and Coordination: Prepare second quarter 2006 report and filing.

TASK 4 - Site Monitoring: No monitoring activities this quarter.

**PROJECT ISSUES SUMMARY**

Reynolds Metals, located on 80 acres about 1.25 miles north of Troutdale, Oregon, produced aluminum for 45 years until 1991 and resumed partial production again in early 1998. Between 1991 and 1998, operations at the site were limited to casting ingots from molten aluminum imported from Reynolds' Longview, Washington, plant. The plant is about 1.5 miles east of Portland Water Bureau's South Shore Well Field where DEQ is actively overseeing the East Multnomah County groundwater contamination project. Nineteen drinking water wells are located within a 1-mile radius of the plant site. Of 18 city production wells, 10 were decommissioned, and eight remain as primary and backup supply.

The Troutdale plant's process converted bauxite ore into aluminum by electrolytic reduction in large, carbon-lined pots. Trace amounts of other metals such as copper, chromium and beryllium were sometimes added to make aluminum alloys. When spent, potliners were broken from the pots and disposed of on-site until 1975 when they were transported off-site for reprocessing. Potliners are a listed RCRA hazardous waste (K088) because they contain cyanide complexes.

Sampling of some of the 18 on-site drinking and industrial water supply wells revealed cyanide, arsenic, and fluoride, among other site-related constituents, at levels below federal MCLs. Groundwater to a depth of at least 165 feet on-site has been impacted by fluoride, arsenic, nickel, and antimony at concentrations above MCLs. Eight known areas of soil contamination contain elevated levels of PAHs and metals, including aluminum, arsenic, beryllium, chromium, copper, iron, lead, nickel, vanadium, and zinc.

In November 1993, DEQ Site Assessment determined the site to be a high priority for enforcement, and referred it to DEQ Site Response. The site was proposed for the National Priority List in August 1994, based upon results of an EPA Site Inspection Prioritization (SIP) conducted in January 1993. EPA conducted a Removal Assessment between June and October, 1994. Under its removal authority, EPA removed contaminated soil from the cryolite ponds area in December 1994 and January 1995. Removal actions continued into the third quarter 1995 for the East Potliner Area and for diesel-contaminated soil near two diesel fuel storage tanks. Further removal actions in 1996 included the cast house PCB spill area and continuing decommissioning of abandoned production wells. The East Potliner Area removal was completed by second quarter 1996 and finishing work (surface grading of perimeter steep slopes and a temporary cap) occurred in the third quarter of 1996.

An administrative order between EPA and Reynolds was signed in the third quarter 1995. A RI/FS work plan was prepared by developing individual addenda covering specific areas of the site. A summary monitoring data package was distributed in first quarter 1997 and a follow-up groundwater briefing was held in second quarter 1997. RI investigation activities during 1997 included monitoring well installation, installation of a series of piezometers in the south ditch area, and groundwater sampling and monitoring well installation along the south bank of the Sandy and Columbia Rivers to determine extent of groundwater contamination and support the ecological risk assessment. Soil and groundwater sampling in Company Lake, South Drainage Ditch and sitewide for groundwater occurred in summer and fall 1997. A large-scale pump test was conducted during fall 1997. Two of a total of 10 production wells were abandoned in early 1998.

A site-specific groundwater model was prepared and calibrated in 1998, and was used to evaluate soil and groundwater cleanup actions and impacts to the Columbia and Sandy Rivers. A non-groundwater baseline human health risk assessment was submitted and reviewed during second quarter 1999. A draft groundwater baseline human health risk assessment and a site ecological risk assessment were also submitted later that year.

Early actions for soil and debris areas and potentially groundwater were under discussion in 1998. Discussions were held in late 1998 and 1999 on natural resource damage and assessment (NRDA), and the role for this issue in developing and implementing cleanup actions. A Focused Feasibility Study (FFS) submitted, on November 15, 1999, contained the NRDA elements to be implemented during and following cleanup at the site. A proposed plan was prepared by EPA during second quarter 2000 and was reviewed by EPA and DEQ. Alcoa purchased Reynolds in late 1999, and closure of the Troutdale plant was announced on June 29, 2000 prior to completion of the EPA plan. Plant closure impacted plan review and public comment, FFS implementation of soil and groundwater actions, and completion of an NPDES permit renewal by interrupting and delaying initiation and/or completion of these actions.

An early removal for partial removal of Company Lake sediments occurred during third quarter 2001. The lake was de-watered and a portion of the contaminated lake bed sediments, exposed above water level, was removed. This action resulted in changing the proposed cleanup technology for Company Lake to dewatering and mechanical removal.

A spill involving transformer oil containing low levels of PCBs occurred in November 2001. Cleanup of the spill was initiated by Reynolds under DEQ's spill program. A site visit was made to observe the spill cleanup. Cleanup has continued into first quarter 2002 with further soil removal and initiation of microbial treatment of soil and groundwater exposed in excavation.

EPA released the proposed plan for the site August 29, 2002 for a 30-day public comment period. The plan proposed removal of soil from the east half of the North Landfill and riprap cover for the west half, excavate contaminated sediments from Company Lake, remove contaminated debris

from the South Landfill, conducting focused groundwater extraction in the south plant area to address areas of high groundwater contamination, and to pump two on-site production wells to maintain hydraulic control of deeper plume to prevent discharge of contaminated groundwater to the Sandy River. At the end of the comment period, the plan was approved as an Interim ROD.

In September 2002, Alcoa entered into contracts with contractors to perform the Scrap Yard removal and to construct the NPDES discharge bypass to allow direct discharge to the Columbia River for stormwater, and begin to drain Company Lake in preparation for Company Lake sediment removal during 2003. The Scrap Yard removal and bypass construction were completed in fourth quarter 2002. During winter and spring of 2003, dewatering of Company Lake began in preparation for the Company Lake sediment removal to occur during summer 2003. Completion of the North Landfill removal, South Landfill removal, and installation of a focused groundwater extraction system occurred by 2004.

Alcoa prepared a demolition work plan and began the process to secure contractors during first quarter 2003. The plant demolition was anticipated to be completed within about three years, which is a similar timeframe for completion of all site soil and sediment removal under the EPA-approved interim cleanup plan. Alcoa continued to monitor groundwater under an EPA-approved monitoring plan. During second quarter 2003 Reynolds prepared remedial action documentation for Company Lake, North and South Landfill, and obtained contractors. Remediation at Company Lake, North and South Landfills began in third quarter 2003. Discovery of Western Pond Turtles, an endangered species, in Company Lake resulted in relocation action taken by Oregon Fish & Wildlife, to nearby East Lake. DEQ and U.S. Fish & Wildlife staff began a Natural Resource Damage Assessment with site visits and review of file documents.

Company Lake remediation reached approximately 60% completion by October 2003 and ended for the season due to wet weather. Excavated sediment were wetter than expected and sediment from both North and South Landfill excavations were blended with Company Lake sediment prior to disposal, to improve handling of sediments. Company Lake excavation resumed in third quarter 2004. North Landfill remediation is complete with placement of rock cover. South Landfill remediation was halted for the season, to preserve drier sediment for blending with Company Lake sediment, and resumed during third quarter 2004. DEQ and U.S. Fish & Wildlife staff made site visits to observe areas of the site vicinity to support evaluation of project file documents.

Reynolds took steps to resume cleanup action at Company Lake and South Landfill in August 2004. Work continued in installing focused extraction wells in the southeast portion of the site to address areas of high fluoride concentration in groundwater near South Landfill and East Potliner Area. Cleanup at Company Lake proceeded through the summer and, along with final measures at North Landfill, South Landfill, and Scrap Yard, was completed in fourth quarter 2004.

Project meetings between DEQ, EPA and Reynolds/Alcoa resumed during the remainder of summer and fall 2004 to maintain closer communication for ongoing cleanup as well as post-demolition remedial investigation and risk assessment activities that have begun and will continue until after demolition is complete. DEQ and EPA reviewed the Post-Demolition RI/RA work plan and field sampling plans and provided comments to Reynolds/Alcoa. DEQ and EPA agreed for Reynolds/Alcoa to proceed with a general work plan, and implement field sampling plans as quickly as possible. A final review was to be done to determine whether further data was required to finalize the investigation and final risk assessment. DEQ and EPA approved a decision tree for Reynolds/Alcoa to determine whether smaller scale removals could or should be done during the course of the investigation to avoid delays during the demolition process.

Company Lake began naturally refilling after the completion of remedial activities in late 2004. Final actions at Company Lake include grading lake margin slopes and natural plantings required by

Oregon Division of State Lands, and repair of access roadways. By the first quarter 2005, all monitoring wells not to be used in long-term monitoring were abandoned per state requirements.

Work under the EPA-approved Post Demolition RI/RA Work Plan is ongoing as demolition proceeds. The work plan was approved and work proceeds based upon detailed Field Sampling Plans for individual areas identified in the work plan. Results from the work are posted to a web page for use by EPA and DEQ. Project meetings summarize work in post demolition sampling and scoping of residual risk assessment.

Soil cleanup north of the USACE dike, and south of the dike in the former plant area, was complete by September 2005. Two focused extraction wells were installed and all piping for collection, sampling, and discharge of extracted groundwater is complete. Start up testing began in October and was complete by the end of 2005, with startup of the full groundwater remedy in early 2006. Groundwater has been extracted from two wells located in the southeastern plant area where groundwater concentrations are elevated in shallow zones, with this extracted groundwater merged with groundwater pumped from two production wells that hydraulically control a higher concentration plume at depth. The merged groundwater is to be sampled for NPDES Permit compliance and performance measure evaluation for the extraction system prior to discharge of the waters to the Columbia River. Groundwater across the site will be monitoring over the next five years in accordance with the Sitewide Groundwater Monitoring Plan. A ROD is expected to be prepared in 2006. Annual groundwater and remedy monitoring reports will be submitted and a comprehensive review will be conducted in 2010.

Post-demolition confirmation sampling was nearing completion during third quarter 2005 and most demolition activities are complete. Limited cleanup remains to be conducted during early first quarter 2006. Risk Assessment Scoping has been completed and all confirmation sampling is being added to the risk assessment database as it becomes available. Risk Assessment began during first quarter 2006. Work on related issues such as institutional controls that will become part of the final remedy and incorporated into the final Order continued into second quarter 2006.

A public comment period was held in August 2006 on the EPA plan, and a Record of Decision was issued on September 29, 2006. DEQ provided a state concurrence letter on the final remedy on September 26, 2006. Negotiations will begin during fourth quarter 2006 for the final remedy consent decree.

#### **ACTIONS NEXT QUARTER**

- A.** Attend monthly project meetings and initial consent decree negotiations during fourth quarter 2006.
- B.** Review site documents as necessary. Respond to information requests about the site and cleanup.
- C.** Prepare EPA third quarter 2006 report and necessary written responses to EPA.
- D.** No site visits planned for fourth quarter 2006.

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